

What is claimed is:

1. A process scheduling apparatus for performing parallel processing of a plurality of processes respectively having assigned priorities, comprising:

at least one delayed task processing unit for executing delayed tasks among the plurality of processes, having a queuing table in which the delayed tasks are to be registered, and having an assigned priority that is variable;

a plurality of normal process executing units for respectively executing one of the plurality of processes other than the delayed tasks, and having an assigned priority identical to the priority of the executed process;

a process scheduling unit for sequentially activating the delayed task processing unit and the normal process executing units according to the priorities assigned to these units so as to make these units execute corresponding processes;

a delayed task registration processor for registering a newly generated delayed task with the priority thereof to the queuing table of the delayed task processing unit;

a delayed task priority controller for selecting the delayed task of highest priority from the delayed tasks registered in the queuing table; and

a process priority controller for setting the priority of the delayed task processing unit identical to the priority of the delayed task selected by the delayed task priority controller.

2. A process scheduling apparatus according to claim 1, wherein the delayed tasks include a task involved in an interrupt handler task for which

processing can be delayed.

3. A process scheduling apparatus according to claim 1, wherein when the new delayed task is generated, the process priority controller sets the priority of the delayed task processing unit before an initiation of a next process following a currently executed process at the generation of the new delayed task.

4. A process scheduling apparatus according to claim 3, wherein when the new delayed task is generated, the process priority controller suspends the currently executed process, sets the priority of the delayed task processing unit, and then resumes the suspended process.

5. A process scheduling apparatus according to claim 3, wherein when the new delayed task is generated, the process priority controller sets the priority of the delayed task processing unit after a termination of the currently executed process but before the initiation of the next process.

6. A process scheduling apparatus according to claim 3, wherein the currently executed process at the generation of the new delayed task includes both the processes executed by the normal process executing units and the delayed tasks executed by the delayed task processing unit.

7. A process scheduling method for performing parallel processing of a plurality of processes respectively having assigned priorities, comprising:

sequentially executing a delayed task handling process for processing delayed tasks and normal processes for executing processes other than the delayed tasks according to priorities respectively assigned to the delayed task handling process and the normal processes;

5 registering a newly generated delayed task with the priority assigned thereto in a queuing table;

selecting a delayed task of highest priority from the delayed tasks registered in the queuing table; and

10 setting the priority of the delayed task handling process identical to the priority of the selected delayed task.

8. A process scheduling method according to claim 7, wherein the delayed tasks include a task involved in an interrupt handler task for which processing can be delayed.

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9. A process scheduling method as described in claim 7, wherein when the new delayed task is generated, the priority of the delayed task handling process is set before an initiation of a next process following a currently executed process at the generation of the new delayed task.

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10. A process scheduling method according to claim 9, wherein the setting of the priority level of the delayed task handling process at the generation of the new delayed task comprising:

suspending the current process under execution;

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setting of the delayed task handling process; and

resuming the suspended process.

11. A process scheduling method according to claim 9, wherein setting
the priority of the delayed task handling process when the new delayed task
5 is generated occurs after a termination of the currently executed process but
before the initiation of the next process.

12. A process scheduling method according to claim 9, wherein the
currently executed process at the generation of the new delayed task
10 includes both the normal processes and the delayed task handling process.

13. A program for performing parallel processing of a plurality of
processes respectively having assigned priorities, comprising:

sequentially executing a delayed task handling process for processing
15 delayed tasks and normal processes for executing processes other than the
delayed tasks according to priorities respectively assigned to the delayed
task handling process and the normal processes;

registering a newly generated delayed task with the priority assigned
thereto in a queuing table;

20 selecting a delayed task of highest priority from the delayed tasks
registered in the queuing table; and

setting the priority of the delayed task handling process identical to the
priority of the selected delayed task.

25 14. A computer-readable storage medium recording a program for

performing parallel processing of a plurality of processes respectively having assigned priorities, the program comprising:

sequentially executing a delayed task handling process for processing delayed tasks and normal processes for executing processes other than the delayed tasks according to priorities respectively assigned to the delayed task handling process and the normal processes;

registering a newly generated delayed task with the priority assigned thereto in a queuing table;

selecting a delayed task of highest priority from the delayed tasks registered in the queuing table; and

setting the priority of the delayed task handling process identical to the priority of the selected delayed task.